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SOURCE Revista de Chimie, No 1, 1950.

PRODUCTION OF ACETYLENE FROM SATURATED HYDROCARBONS
BY V. TATARINOV'S METHOD

[A Digest]

For the production of acetylene from saturated hydrocarbons, V. Tatarinov introduces movable pieces of coal disposed between immovable electrodes, so that the electric arc is in a state of constant motion. By this means, a more efficient movement of the gases coming from the reaction chamber through the arc is achieved, so that a more complete conversion takes place. In the old type of installation with immovable electrodes the conversion of methane to acetylene reached a maximum of 20 percent, while by Tatarinov's method a conversion amounting to 35 percent is obtained.

Any hydrocarbon (gasoline, anthracene oil, Baku kerosene boiling between 191 and 298, degrees centigrade bituminous tar, bituminous Diesel fuel boiling between 225 and 325 degrees centigrade and having a phenol content amounting to 24 percent, etc.) can be converted into acetylene by the method in question according to the data cited here, which are taken in part from A. F. Dobryanskiy and A. D. Kokurin's paper published in Zhurnal Prikladnoy Khimii (USSR Journal of Applied Chemistry), No 10, 1947. The yield of acetylene does not depend on the hydrocarbon which is used, being roughly the same in all cases, but only on the number of arcs. The production of acetylene according to Tatarinov's method is more economical than by using the carbide method, and the initial cost of the installation is lower.

[According to the original Russian article by Dobryanskiy and Kokurin, ethyl alcohol can also be converted into acetylene by means of the electric process. The reaction is in the main $2\text{EtOH} \rightarrow 3\text{CO} + 6\text{H}_2 + \text{C}_2\text{H}_2 + \text{CH}_4$.]

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